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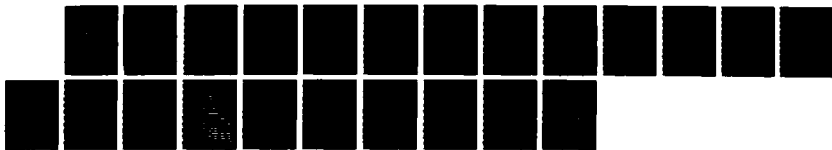
A STUDY ON DECREASED TECHNICAL REPORTING IN THE
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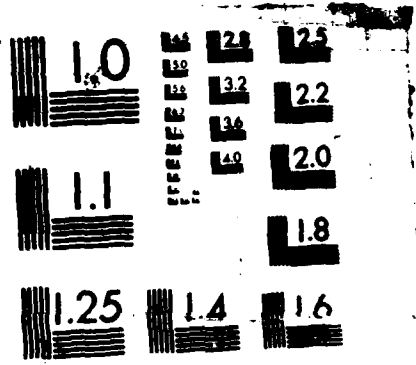
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A STUDY ON DECREASED TECHNICAL REPORTING
IN THE DEPARTMENT OF DEFENSE

Thomas F. Lahr

Defense Technical Information Center

Information Science Intern Program

2 July 1981

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INTRODUCTION

Document input into the Defense Technical Information Center Technical Report data base has shown a continuous decline in the past fifteen years. Contributions have gone from a high rate of approximately 50,000 reports input in 1967, to a low of approximately 28,000 in 1977 (see Appendix A - Technical Report Input by Fiscal Years). This significant reduction in the annual number of documents submitted to DTIC indicates a trend towards a technical information data base that does not reflect the most recent or significant research. This paper will attempt to bring out the point of view of a number of organizations surveyed on why the decline of report input has taken place.

The purpose of this study was to contact a significant number of DTIC contributors, discuss this problem with them, see if they were experiencing a comparable decrease in output, find out what was taking the place of technical reports, and to talk about alternative actions the organization may be taking. This paper is a cumulation and presentation of those discussions.

METHODOLOGY

The requirement for Office of Personnel Management approval to survey non-governmental organizations, determined that this study could be done only with Department of Defense Laboratories. Twenty-five organizations were chosen (see Appendix B - Organizations Contacted), based on a review of the publications, Department of Defense In-House RDT&E Activities and Department of Defense Basic Research Program, and based upon discussions with DTIC employees in the Acquisition and Selection Sections(DTIC-DDA).

A set of questions was developed (see Appendix C - Interview Questions) for use at an informal level. Their main purpose was to get the individual to reflect upon technical reporting procedures in his or her organization, and upon the trends that formal reporting have had in recent years. Another major area of discussion was the use of contractors to perform RDT&E functions along with the agency's ability to maintain control over the technical reports done by those contractors.

Yet, having a set of questions does not necessarily lead to a group of quantifiable responses for comparison. In some areas, certain individuals were more knowledgeable than others, or knew about different aspects of the situation. It must be noted that the very nature of phone conversation lends itself readily to a free flowing form. It was

more important to listen to an individual's opinion rather than to demand a precise answer to a question. The questions, therefore, were used more for conversation openers rather than for creating a formal or structured process for the study.

No attempt was made to put pressure on anyone to increase formal reporting nor to generate an increase in the volume of material to be sent to DTIC. Rather, the purpose of the contacts was to get their opinions and feelings both on their organizations' output and on any means which DTIC might take to help alleviate the problem of decreased output. The more concrete responses and opinions from the organizations are presented in the Observations section of this paper.

Within the organizations contacted, efforts were made to get in touch with individuals who had a knowledge of the technical reporting of the agency as a whole, and not of just one specific area of research or a specific lab. In most cases contact was made with the STINFO (Scientific and Technical Information) Office, the Technical Reports Section, Technical Information Directorate, Publications and Editing, or Technical Library.

OBSERVATIONS

PART A-ANSWERS TO SPECIFIC QUESTIONS

In response to the questions (Appendix C) the answers can be summarized as follows:

1. All the organizations are familiar with DTIC's services and products.
2. Majority are DROLS users.
3. All are producers of research reports.
4. All submit technical reports to DTIC.

The number of documents organizations submit to DTIC range from 18 to 1000 per year. The types of documents submitted are mainly technical reports. A few organizations submit technical notes and technical memos, and other types of publications. These other types include: contractor reports, reprints, special publications, and technical papers. The majority of organizations do not submit technical notes or memos to DTIC. Reasons given include: TN's and TM's are inhouse material only; they are preliminary evaluations; internal restrictions are placed on distribution; release is at the engineer's discretion--most of them would rather send the final version; TM's and TN's are lab analyses--not of interest to others; they are quickly written for expedient distribution internally.

5. Concerning the production of technical reports:

Three organizations noted no decrease in technical reporting; they are maintaining output.

Six remarked that technical reporting had increased slightly in the

past couple of years.

Four organizations said that there had been a decrease but that it was slight.

Twelve organizations noted a decrease in formal technical reporting. These twelve are the ones which were asked to talk about the reasons for this decrease in their agencies. A compilation of the responses to this particular question is provided in Part B of this section.

6. All the organizations talked with contract out for certain research. The percentage of research contracted out ranges from 40% to 90% of the total research done in the lab. This rate is decreasing in only one organization. The rest are either maintaining or increasing the amount of research being done by contractors. A few of the respondents noted that they have little or no control over the reports produced by the contractors. It is up to the contract branch or the contracting official in those agencies to see that a copy of reports resulting from a contract are sent to DTIC.

7. Most individuals contacted are not completely cognizant of the total research being done within the Department of Defense. a few noted that it does not seem to be less money going into research, but that the money does not go as far as it used to; they have noticed a decrease in formal reporting as a result.

8. Two people had suggestions to alleviate the problem of decreased technical report input into the DTIC system. One individual commented he didn't feel it is anything that DTIC is doing that is having an adverse affect. Rather, the organization itself has to be more of an enforcer over the scientists and engineers to see that the results get published.

Another individual recommended that there should be more of an awareness of DTIC and of the requirement to send reports to DTIC, especially on the part of the contracting officials who control the contracts and the reports resulting from them that the technical information offices do not control.

Two individuals spoke of the proposed declassification of the DTIC Technical Report data base as something which they think would be detrimental and might result in a further decrease of contributions to DTIC.

The broad general coverage of the COSATI fields and groups was brought up by two persons in regard to limited reports. They felt that since the fields and groups tend to be so broad in coverage, contractors could get items which they should not really be entitled to. They both felt that this was a drawback to DTIC's system which caused a hesitancy to send limited documents to DTIC. One of these individuals suggested a redefining and narrowing of the fields and groups. The other suggested that the contract monitoring agency sign off on the Form 55 which would let the contract monitor decide if an item is in the contractor's need-to-know for the contract that it is working on.

Several people commented that their organizations have noted this decrease in formal reportings and are attempting to attempt to alleviate it. One is doing an in-house campaign to increase the publication of technical reports by linking formal publishing with a merit pay plan. One organization, at one time did not obligate their engineers and scientists

to put out formal reports if they did not want to. That organization has just changed its regulation, however, to state that any exceptions to producing a TR must be put in writing with a complete justification.

PART B-RESPONSES GIVEN FOR DECREASE IN TECHNICAL REPORTING

Ascertaining the decrease in technical reporting was the main purpose for contacting the DOD Labs therefore, the reasons they gave in the discussions held with them compose this part of the observations. Their responses relate to Question 5 in the study and each paragraph represents the response of an individual organization, noted at the end of each paragraph. Question 5 asked "Do you feel there is an overall reduction in the number of technical reports currently being produced in your agency?" and "Why?" The responses are in the words of the contributors.

"Our publication of technical reports has gone way down in the past sixteen years. Informal reporting has definitely cut into it. Engineers have cut down on paperwork by producing fewer published TR's, replacing them with progress reports, and interim or preliminary reports. These are frequently in a form that cannot be sent to DTIC." (Naval Civil Engineering Lab)

"There does not seem to be less research being done, rather there is less being reported, and more being contracted. We have little control over the contractor produced reports and do not know whether or not they are sent to DTIC" (Naval Underwater Systems Center)

"Yes, technical reporting is decreasing. We are finding a lot more reporting in technical memos and other informal reports meant to stay in-house."

(Naval Air Development Center)

"Fewer technical reports are being produced at our organization. This may be a result of the paper pinch, or of longer range research which results in less reporting. The thrust of the lab is moving into basic research and this may also be a cause."

(Air Force Armament Lab)

"Less research and development work is being done because senior and experienced people have left the organization. The direction has been changing from less research to more application. There seems to be less in-house research being done, and more contracted."

(Army Tank-Automotive Research and Development Command)

"We have had a decline over the past ten years. A reason for this is money. It is more expensive to do the work, so less projects are being done. More in-house reporting is being done, that will not result in a technical report. Some of the research is longterm, it will be years before a TR is published. The informal presentation of results is circumventing DTIC's system."

(Air Force Weapons Lab)

"We have noticed an increase of material in draft form, that cannot get published as a technical report."

(Army Chemical Systems Lab)

"There has been an increase in the research end, but actual writing has diminished. One of our biggest difficulties is making sure that contractor

reports make it to DTIC. We have started a program to try and maintain tighter control over these, and over our own in-house reports."

(Army Natick Research and Development Labs)

"Yes, there has been a decrease in technical reporting. There may be more administrative type reports and briefings done via conferences and symposia that will get published in the proceedings, and not as technical reports."

(Army Materials and Mechanics Research Center)

"Our formal technical reports have gone down in number. In some cases they were not of good quality, or the results were not acceptable for publication and dissemination. This may change with a change in regulations. Previously they could get a waiver to publishing if the results or quality were not adequate. Now they are required to publish. Another aspect of this is that the Commander wants to combine some research work, which may result in less reporting."

(Air Force Human Resources Lab)

"We have had a decrease in TR's. Some people do not want to go through the hassle of editing and publication that is necessary in putting out technical reports."

(Air Force Avionics Lab)

"We have had a decrease in formal technical reporting. Instead people are putting out more technical notes and technical memos. These are less expensive and quicker to move through the system."

(David W. Taylor Naval Ship Research and Development Center)

DISCUSSION

The General Accounting Office has recently completed a study titled The State of Basic Research in DOD Laboratories. Some of the results that they found should be included here in relation to the decrease of technical report input into DTIC. GAO noted that following the Soviet Sputnik launching in 1957, Federal support of basic research experienced a tremendous growth into the mid 1960's. The following decade - the mid 1960's to the mid 1970's - saw a steady decline, but it never fell as low as the pre-1957 Federal basic research support levels. The Department of Defense's funding of basic research followed a similar pattern, but with a less dramatic rise and fall. For this comparison, see Appendix D - Total Federal and DOD Basic Research Obligations.

GAO related that the drop in DOD support of basic research affected the in-house laboratories as well as contract research performed by universities and industry. The report mentions a previous study in which the Department of Defense laboratory directors reported that during the 1972-77 time period DOD basic research funding, even without considering the effects of inflation, had either decreased or remained constant. The GAO report found that in terms of real dollars, funds provided to the in-house laboratories for either their own use or for contracting out, declined 41% from 1966 through 1975 before leveling off. The individual services generally followed similar

patterns, but with the Air Force experiencing a more severe decline than the Army and Navy (see Appendix E - DOD Basic Research Funds Given to In-House Labs).

These findings by the General Accounting Office of the decrease in basic research funding correlate to the decrease in technical report input at DTIC from the mid 1960's to the mid 1970's.

This is not to suggest that decrease in funding is the answer to the problem of decrease in TR's. It is only one of several of a number of factors that have affected technical reporting by DOD labs.

In the discussions with the labs, it appears that constraints of time and money have been recurring problems, which provides a response to the question of why the labs' output in documents has decreased. It is very time-consuming and more expensive to publish formal reports. Although not specifically stated, one could infer that Military Standard 847A, Format Requirements for Scientific and Technical Reports Prepared by or for the Department of Defense imposes publication standards which tend to discourage technical reporting at current costs.

Aside from the costs and time involved, there also seems to be a lack of understanding among the engineers, scientists and researchers themselves of the need to publish and disseminate the products of research and development efforts. A number of organizations stated that they were currently running campaigns to make this fact known to the researchers. The individuals contacted were not sure what effect this would have on report production, but they were hopeful. An interesting aspect is that they were aware of the

problem, not just in their agency, but also in the Department of Defense as a whole. They were obviously thinking about the consequences of the lack of formal reporting and were beginning to do something about it. Perhaps if more DOD labs' STINFO offices or Technical Information Directors were aware of the importance of report generating, and were willing to convey this to their researchers, it would have beneficial impact.

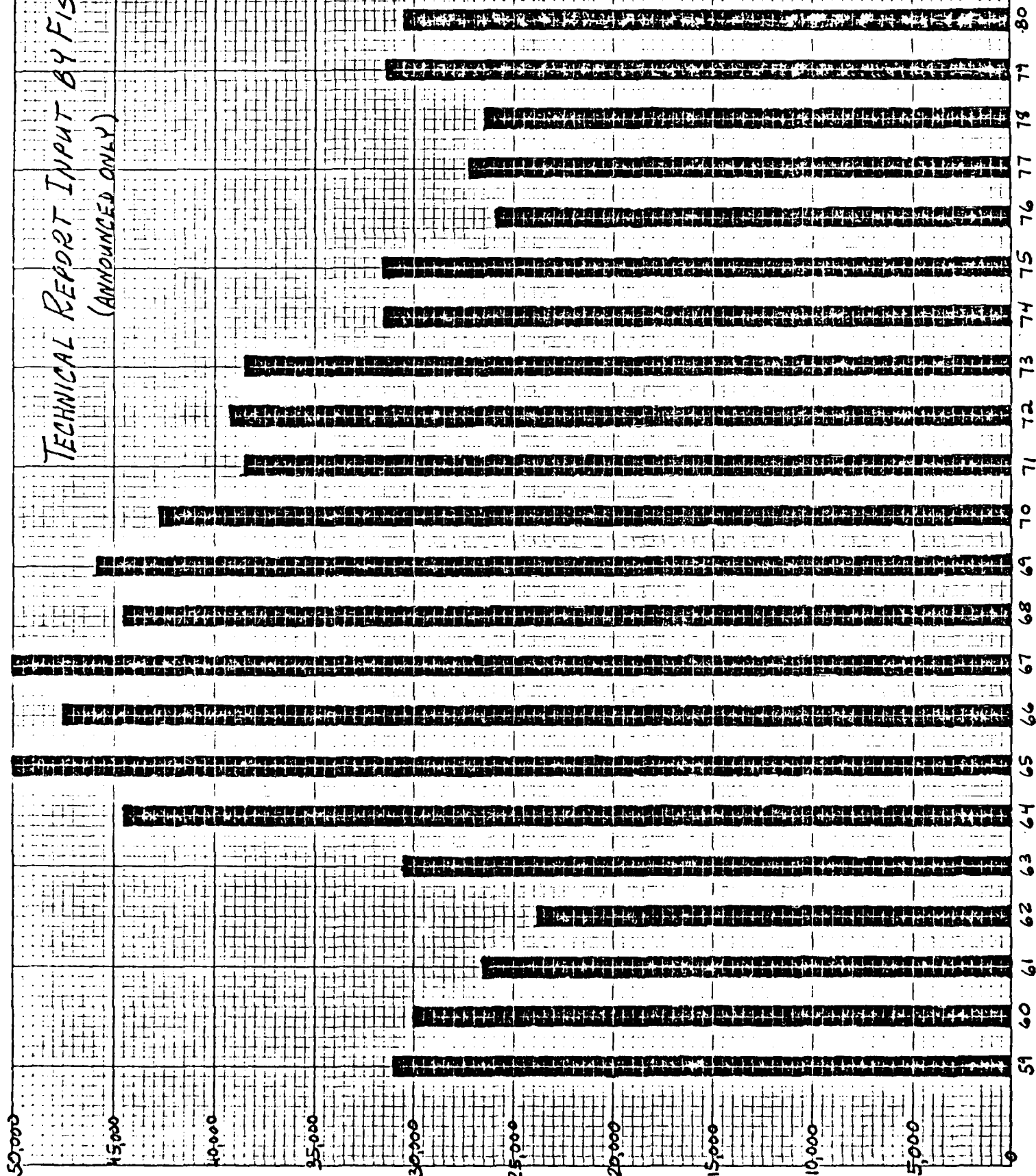
Another aspect that came out during the survey was that relatively few of the individuals contacted have any control over their organizations contractor reports. They are not certain that these are always submitted to DTIC.

Contracting management or procurement personnel should continually be kept aware of DTIC and of the need to comply with the publication and dissemination requirements of their contracts.

In conclusion, one must always keep in mind that the Defense Technical Information Center is but one component part of a complex bureaucracy which comprises the DOD technical information program. DTIC is dependent upon cooperation and support from all of the other components of the system. As this survey showed, there is no one specific factor which one may attribute to the decrease in technical reporting. Different organizations have various reason for it. DTIC, being a cog in the whole wheel of DOD information transfer, will have to take into account all of the varied factors and their underlying basis. Correction of the specific problem of decreased report input will require coordinated efforts at all levels of the DOD technical information program, if it is to be solved at DTIC's level.

TECHNICAL REPORT INPUT BY FISCAL YEAR
(ANNOUNCED ONLY)

APPENDIX A-TECHNICAL REPORT INPUT BY FISCAL YEAR



APPENDIX B-ORGANIZATIONS CONTACTED

NAVY

David W. Taylor Naval Ship R & D Center
Naval Air Development Center
Naval Air Test Center
Naval Civil Engineering Lab
Naval Coastal Systems Center
Naval Ocean Research and Development Activity
Naval Ocean Systems Center
Naval Underwater Systems Center
Pacific Missile Test Center

Bethesda, MD
Warminster, PA
Patuxent River, MD
Port Hueneme, CA
Panama City, FL
NSTL Station, MS
San Diego, CA
Newport, RI
Point Muga, CA

ARMY

Army Research and Development Command
Army Atmospheric Sciences Lab
Army Chemical Systems Lab
Army Materials and Mechanics Research Center
Army Medical Bioengineering Research and Dev. Lab
Army Natick Research and Development Labs.
Army Research Office
Army Tank-Automotive Research and Development Command
Ballistic Research Labs

Dover, NJ
White Sands Missile Range
Aberdeen Proving Ground, MD
Watertown, MA
Fort Detrick, MD
Natick, MA
Research Triangle Park, NC
Warren, MI
Aberdeen Proving Ground, MD

AIR FORCE

Air Force Armament Lab
Air Force Avionics Lab
Air Force Engineering and Services Center
Air Force Flight Test Center
Air Force Geophysics Lab
Air Force Human Resources Lab
Air Force Weapons Lab

Elgin AFB, FL
Wright-Patterson AFB, OH
Tyndall AFB, FL
Edwards AFB, CA
Hanscom AFB, MA
Brooks AFB, TX
Kirtland AFB, NM

APPENDIX C-INTERVIEW QUESTIONS

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1. Are you familiar with DTIC's services and products?
2. Are you a DROLS user?
3. Are you a producer of research reports?
4. Do you submit documents to DTIC?

YES:

How many?

What types (TR's, TN's, TM's, Preliminary, Interim, Periodic Reports etc.)?

Do you have suggestions for improvement of DTICS handling of reports?

NO:

Why?

Are you familiar with the Dod regulations regarding submission of reports?

5. Do you feel there is an overall reduction in the number of technical reports currently being produced in your agency?

YES:

Why?

6. Does your agency contract out for certain research projects?

YES: Approximately what percentage of total research is contracted?

APPENDIX C-INTERVIEW QUESTIONS (CON'T)

6. YES(cont.)

Is this currently increasing or decreasing?

7. In DoD generally, is there less research being done, or less research being Formally reported?

YES:

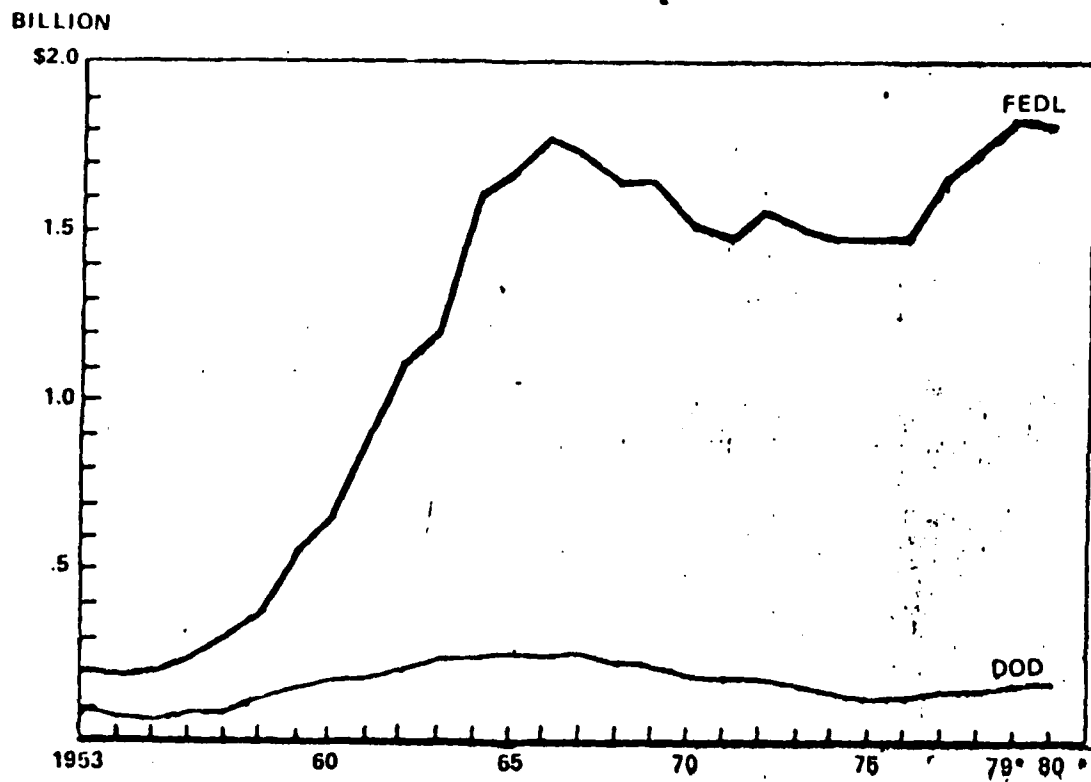
What types of reports or documentation (if any) have taken the place of technical reports?

Should this documentation be submitted to DTIC to be shared with other DoD activities?

8. Have you any suggestions for actions which could be taken to alleviate the problem of decreased technical report input into the DTIC system?

APPENDIX D

TOTAL FEDERAL AND DOD BASIC RESEARCH OBLIGATIONS (a)



Source: Prepared by GAO using National Science Foundation Basic Research figures and DOD's RDT&E Deflator.

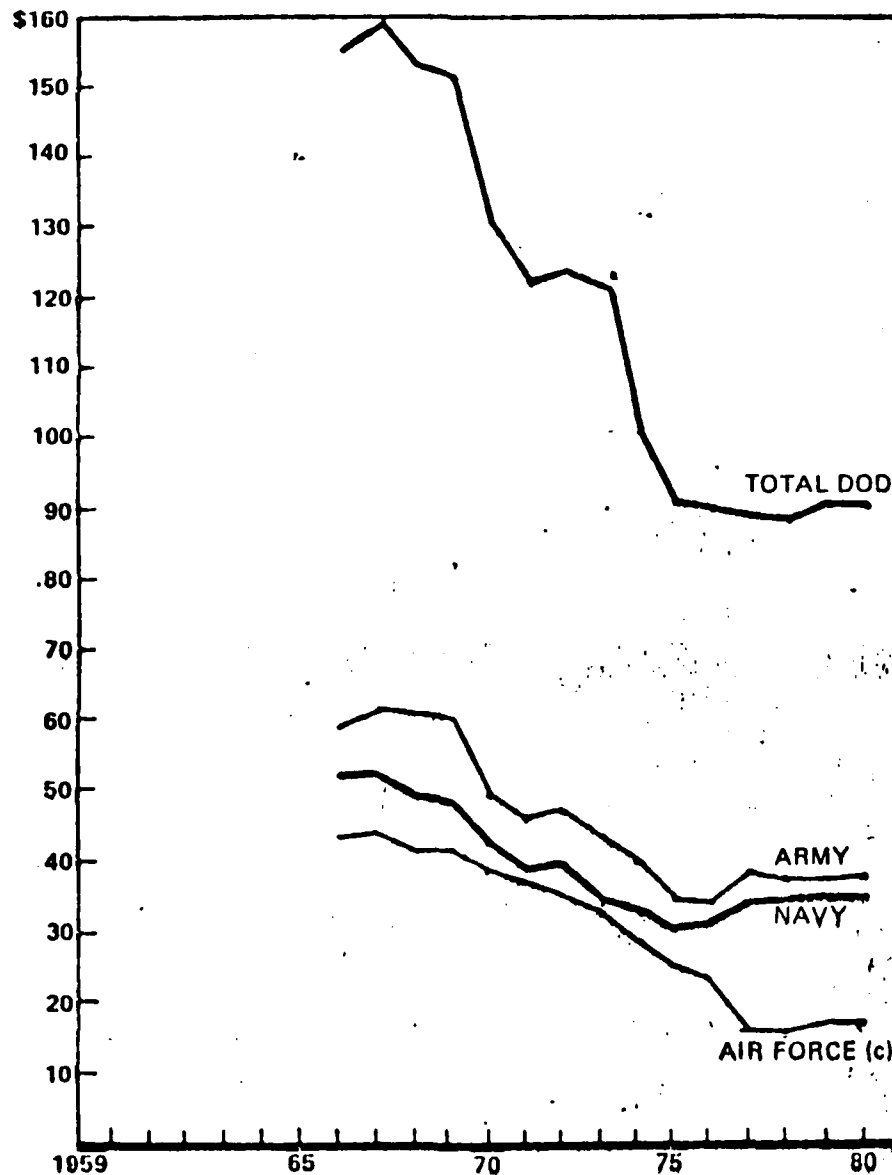
* Estimated

a/ Funding figures in this graph were converted to constant dollars using 1966 as the base year.

APPENDIX E

DOD BASIC RESEARCH (6.1) FUNDS GIVEN TO IN-HOUSE LABS (a and b)

MILLIONS



Source: Prepared by GAO from figures obtained from DOD and using DOD's RDT&E Deflator.

a/ Funding figures in this graph were converted to constant dollars using 1965 as the base year.

b/ Funds given to in-house labs for research and the amount they perform is not exactly the same because labs contract some of their research work and get a small amount of research funds from other organizations, but it is indicative of the trend in the level they perform.

c/ Air Force provided figures for the Defense Research Sciences funding given to Air Force in-house labs, which accounts for about 92 percent of total 6.1 funding.

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DTIC